MR Form 3
(Revised 1984)

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DIVISION OF
OIL, GAS & MINING

Dave
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ANNUAL OPERATIONS AND PROGRESS REPORT

From Month/Year January 1, 1985
to Month/Year January 1, 1986

(To be submitted for each mining operation at the end of each calendar year to the Division at this address:)

STATE OF UTAH
DEPARTMENT OF NATURAL RESOURCES
DIVISION OF OIL, GAS AND MINING
355 West North Temple
3 Triad Center, Suite 350
Salt Lake City, Utah 84180-1203
(801) 538-5340

OPERATOR: AMAX Magnesium Corp. MINE NAME: Rowley, Utah

ADDRESS: 238 North 2200 West
Salt Lake City, Utah 84116

PERMIT NUMBER AND DATE OF PERMIT: ACT/045/008 May 25, 1979

REPRESENTATIVE: D.H. Wilkinson

SECTION(S): 11 TOWNSHIP(S): 2N RANGE(S): 8W

MINERAL(S) MINED: Oolites

STATE AND/OR FEDERAL MINERAL LEASE NUMBERS: None

SPECIAL USE PERMITS AND/OR RIGHTS-OF-WAY: None

Section 40-8-15 and Rule M-8 of the Utah Mined Land Reclamation Act, requires each operator to include with this report an up-dated map and plan prepared in accordance with Rule M-3, as outlined in the requirements for annual report maps in Appendix I, providing a detailed status of all mining and reclamation activities which have occurred during the past year.

The report should include:

MINING:

(a) Tabulation of acreage disturbed (by pits, roads, facilities, etc.) during the report period with illustration on a current map.

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Disturbance	Acreage
Pit	23
Roads	
Facilities	
Waste Dumps	
Other	

(b) Tabulation of acreage affected to date (by years).

Date by Year	Acreage (Total
1975	
1976	
1977	
1978	
1979	3
1980	3
1981	3
1982	4
1983	5
1984 & 1985	5 each

(c) Tabulation of all topsoil (new) stockpile volumes (see chart below) and date of stockpiling.

SOIL TABULATION CHART

Area Affected (in mining sequence) (If more space is needed, please attach.)	Area 1	2	3	etc.
Acreage of Area	5			
Depth of Topsoil Removal (inches)	Area mined with front end loader. All screen sizes are used. They are then levelled and contained.			
Depth of Topsoil Replacement (inches)*				
Estimate of Topsoil Volume Salvaged (yd^3 or ac ft)				
Volume Actually Salvaged (yd^3 or ac ft)				
Volume Required for Reclamation (yd^3 or ac ft)				
Surplus or Deficit Volume (yd^3 or ac ft)				
Storage Status (short- or long-term)	38,000 Tons (In-Plant)			

Soil Tabulation Chart (continued)

Area Affected (in mining sequence)	Area 1	2	3	etc.
Storage Location	In Plant			
Area Where Soil Has Been Used (if not stored)				
Running Total (all stockpiles) (yd^3 or ac ft)				
Short-term				
Long-term				

*Of previously stripped area recently reclaimed.

(d) Tabulation of all (newly removed) out-of-pit spoil volumes, date of placement and illustration on a map.

Area	Date	Acreage

(e) Tabulation of quantity of commodity mined.

	Commodity	Tonnage
(Mined)	Oolites	69,500
(Milled)		

(f) Description of any new construction during the report period with illustration on a map, including, but not limited to:

1. Buildings and support facilities.
None

2. Roads.
None

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3. Diversion ditches, collector ditches, interceptor ditches, etc.
None

4. Culverts.
None

5. Sediment ponds, containment ponds.
None

6. Monitoring sites (vegetative, air quality, surface subsidence, surface water or ground water, etc.).
None

7. Topsoil stockpiles.
None

(g) Description of any environmental problem areas with a proposed plan for mitigation and illustration on a map, including, but not limited to:

1. Pit stability problems.
Area levelled.

2. Subsidence.
None

3. Accidental water discharge, dam failure, etc.
None

4. Slumping, sliding or erosion.
None

5. Revegetation problem areas.
None

6. Existence and location of unsuitable (toxic) overburden.
None

RECLAMATION:

(a) Tabulation of the acreage reclaimed during the report period with illustration on a map, distinguishing between:

1. Backfilled, graded and contoured areas.

Area	Acreage
Mining Area	5 Acres

2. Topsoiled areas.

Area	Acreage
Mining Area	5 Acres

3. Seeded areas.

Area	Acreage
None	

4. Reseeded areas (areas previously seeded, then seeded again).

Area	Acreage
None	

(b) Tabulation of total acreage reclaimed (seeded with permanent seed mix) to date by years with illustration on an updated map:

Year	Acreage
1975	
1976	
1977	
1978	
1979	
1980	
1981	
1982	
1983	
1984	

(c) Description of the reclamation procedures used during the report period, including:

1. Average depth of topsoil applied.
Levelled and contoured with bulldozer.

2. Type of seed (species) used for seeding during the report period.
None

3. Date of seeding during the report period.

Spring None

Fall

4. Seeding procedures used.

(Hand broadcast or drilled or any other).

None

5. Rate of seed application.

Pounds Per Acre of Pure Live Seed (PLS) (if varied, please explain)

None

6. Type and rate of fertilizer applied.

None

7. Type and rate of mulch applied.

None

8. Rate of irrigation water applied, if any. Please describe any type of sprinkling, or water applied (water truck, etc.).

None

9. Revegetation test plot information.

(Cover, density, productivity, etc.)

None

10. Soil analysis results.
None

(d) Description of results of previous revegetation efforts, including: (This should be done as applicable.)

1. Types (species) of seed that have germinated and are growing.
None

2. Types (species) of seed that are not growing successfully.
None

3. Areas experiencing problems with weeds and weed types.
None

4. Significant erosional problems.
None

5. Areas of unsuitable overburden on the surface as related to revegetation failure.
None

6. Procedures used or proposed to correct these problems.
None

7. Acreage and dates of release (upon inspection by the State) of revegetated areas.

Area	Date	Acreage
None		

8. Results of soil analysis.

None

(e) Summarization of the reclamation costs incurred during the report period, including itemized costs for each operation (i.e., grading, topsoil replacement, seeding, etc.) and for each type of disturbance (i.e., spoil, haul roads, facilities removal, etc.) on a per acre basis.

	Acres	Cost/Acre
1. Grading	5	$500
2. Backfilling		Included
3. Contouring		Included
4. Topsoil Replacement		Included
5. Seeding		None
A. Seedbed Preparation		
B. Mulch		
C. Fertilizer		
D. Seed		
6. Other		None

BOND INFORMATION:

A. An updated bond estimate should be included, if required in the Division's approval of the Mining and Reclamation Plan (MRP) or if changes to the MRP have occurred, including a detailed itemization of actual/estimated reclamation costs as outlined in the RECLAMATION section above. The date of the release of revegetated areas from further responsibility for a partial bond release, if applicable, should also be included.

	Amount	Type	Date Posted
Present Bond	$15,278.08	Reclamation Bond 640 Acres	6-13-79

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Increased disturbance, if any:

Increased Bond Amount (attached reclamation estimate).

B. Bond release.

Acres	Bond Amount Released	Date

ADDITIONAL INFORMATION:

Supply any additional information as requested by the Division related to:

(a) Permit stipulations (status).
(b) Other special conditions (status).

APPENDIX I

ANNUAL REPORT MAPS

1. Maps must be clear and legible contour maps or recent aerial photos. The scale should be 1 inch = 500 feet to adequately show topographic features.

2. Map sheets should be of a reasonable size, not to exceed 48 inches on a side.

3. Maps must have a title block with:

   A. Map title.
   B. Name and address of permittee.
   C. Permit and amendment numbers.
   D. Annual report period.
   E. Scale, north arrow, contour interval, date of photography, etc.

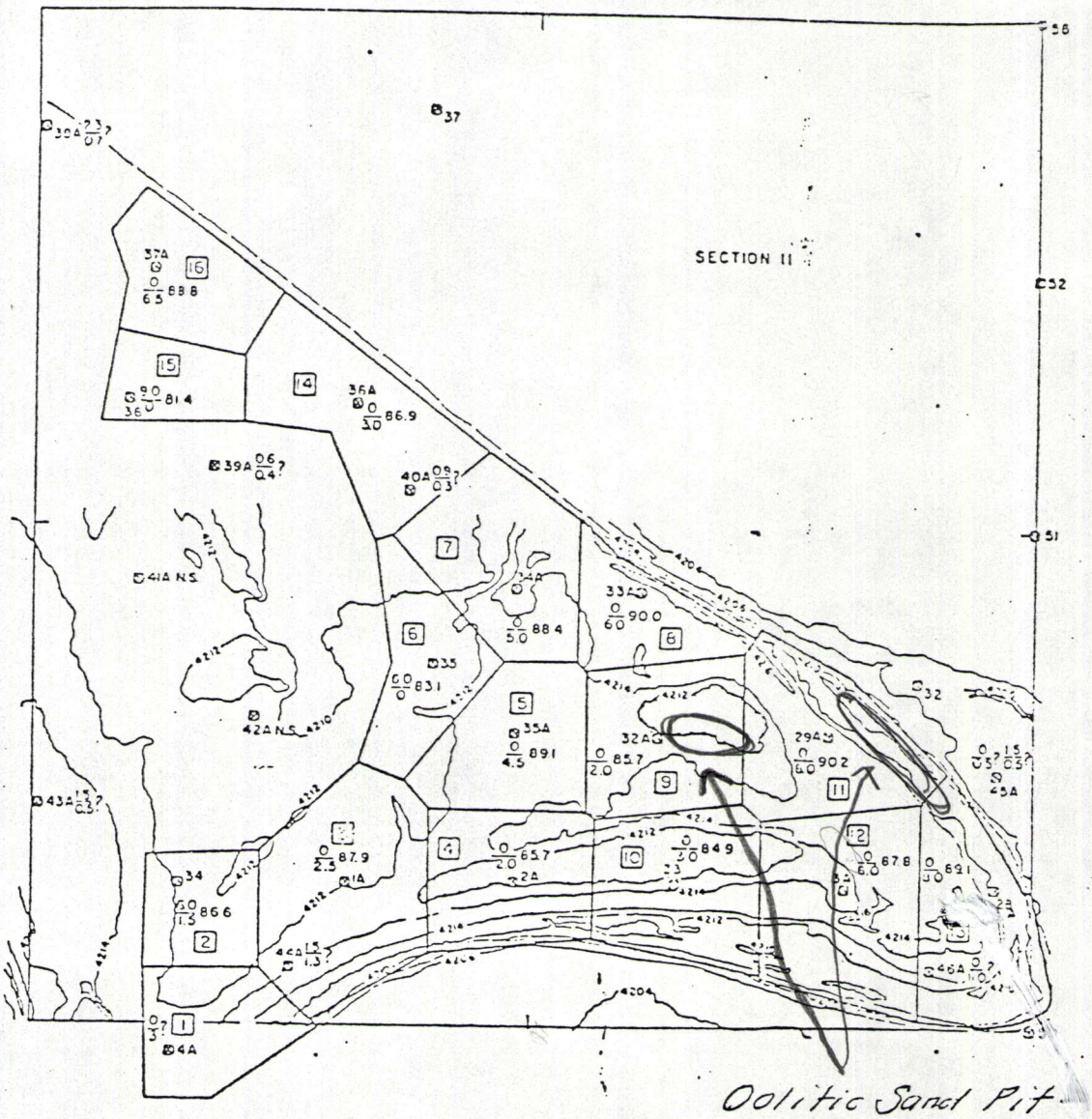
4. All maps must show:

   A. Legal subdivisions.
   B. Permit area boundary clearly shown and labelled.
   C. Amendment areas clearly shown and labelled.
   D. Contour features.

5. The following features should all be clearly identified:

   A. Topsoil stockpiles (numbered and with volumes).
   B. Settling ponds and sediment control structures.
   C. Haul roads.
   D. Pits identified by location, name, number, etc.
   E. Ramps (numbered).
   F. Out-of-pit spoil dumps.
   G. All waste disposal sites including, but not limited to:
      1. Landfill sites.
      2. Carbonaceous waste dumps.
   H. Diversion ditches.
   I. Monitoring sites.

6. All areas to be affected by mining and reclamation in the coming year should be outlined and labelled.



REFERENCE:
DRAWING NO. 6161 (SHEET 1 OF 7), DATED 7-23-62, PREPARED BY CALDWELL, RICHARDS & SORENSEN, INC., USING PHOTOGRAMMETRIC METHODS.

KEY:
⊙1A TEST PIT LOCATION AND NUMBER
[4] BLOCK NUMBER
$\frac{0}{3.0}\ 84.9$ $\frac{\text{OVERBURDEN IN FEET}}{\text{DRY MINING THICKNESS IN FEET}}$ $\%CaCO_3 > 40$ MESH
N.S. NO OOLITIC SAND

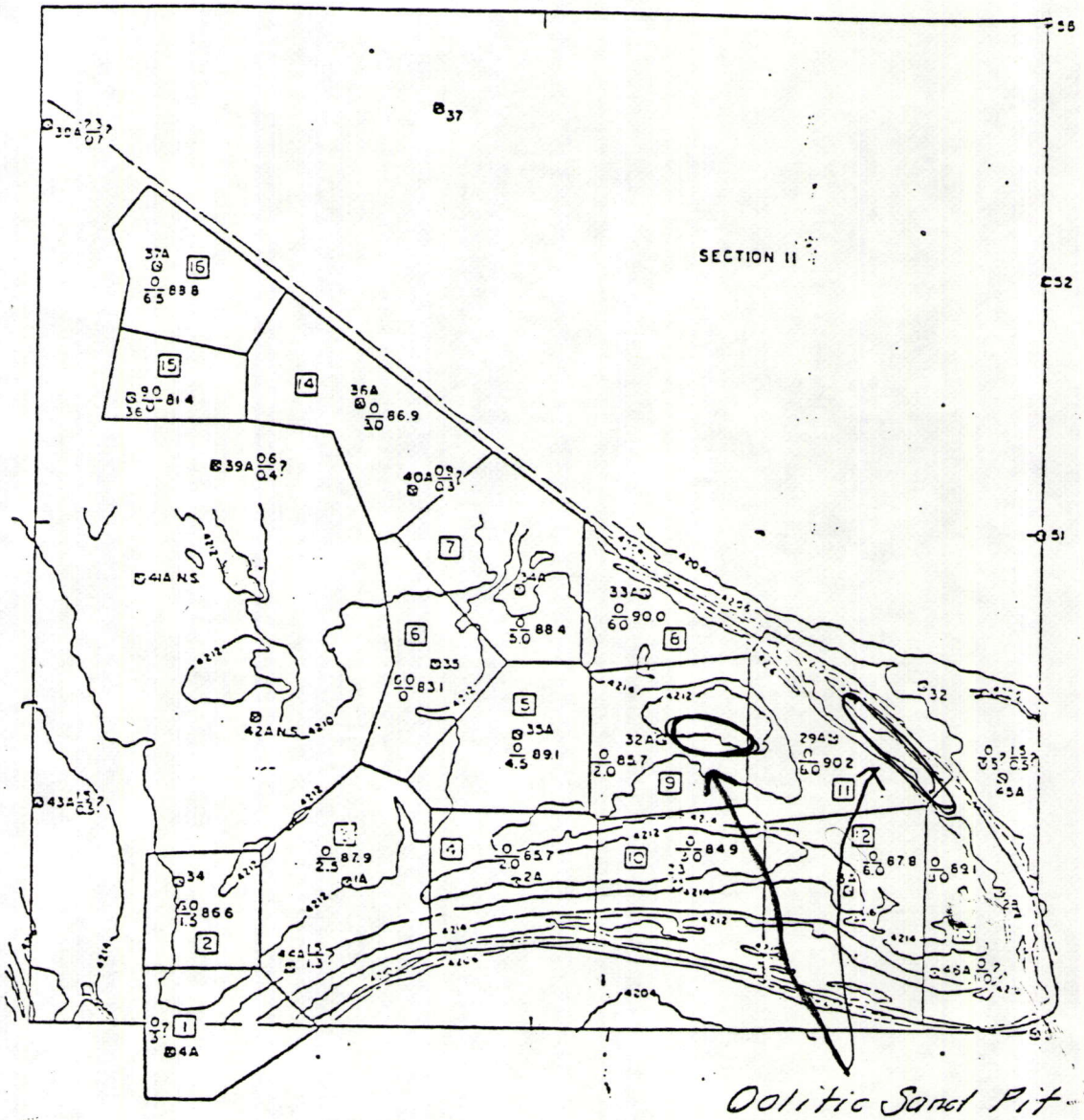
ORE RESERVE BLOCKS
OOLITIC SAND DEPOSIT
SECTION II

FEET
500 0 500 1000

100124

DAMES & MOORE

PLATE 3



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KEY:
@1A TEST PIT LOCATION AND NUMBER
[4] BLOCK NUMBER
0/10 84.9 — OVERBURDEN IN FEET / DRY MINING THICKNESS IN FEET — % $CaCO_3$ > 40 MESH
N.S. NO OOLITIC SAND

ORE RESERVE BLOCKS
OOLITIC SAND DEPOSIT
SECTION II

FEET
500 0 500 1000

100125

DAMES & MOORE